

606 OVERHEAD SIGN STRUCTURES

Sign structures are designed to stand up under severe wind loads. When a sign structure collapses, falling sign panels and steel members can severely injure passing motorists. As a result, Inspectors must use the same level of care when inspecting a sign structure that goes into inspecting a bridge.

606-2 Materials

All of ADOT's sign structures are made of structural steel. Section 604 of this manual on steel structures discusses the requirements the Contractor must meet for any steel. Section 605 provides more information on reinforcing steel requirements.

The non-shrink grout used under the support anchor plates serves a very important function in the structure. The grout ensures uniform contact pressure between the base plate and the sign foundation. The grouting operation needs to be carefully observed to be sure that the grouting is properly done and conforms to the manufacturer's recommendations. The ADOT Approved Products List specifies which non-shrink grouts are pre-approved for use by the Contractor. The Inspector must get the manufacturer's recommendations for the grout and ensure the Contractor carefully follows those recommendations.

606-3 Construction Requirements

Much of the construction requirements for sign structures are the same for steel structures. Refer to Subsection 604-3 of this manual for additional information.

Sign structures are fabricated and erected in accordance with approved shop drawings. During shop drawing development, the Contractor must obtain as-built elevations of the sign foundations so that the columns are fabricated to the corrected length. The Inspector must have a copy of the approved shop drawings to adequately inspect the erection operations. Shop drawings will show any erection procedures that must be followed including splicing methods and connection requirements.

The Resident Engineer must approve any welding that must be done in the field. See ADOT's Welding Policy in Subsection 604-3.06 of this manual for additional requirements when welding on ADOT projects.

Sign bridges and supports are generally inspected at the manufacturing plant. However the Inspector should still inspect all the structural elements on the job. If any element differs from the Project Plans, the Bridge Project Engineer and the Designer of the sign structure should be advised. If the welding appears inadequate, Bridge Group can have an AWS certified welder come to the project site to inspect the welds. All galvanized metal should be examined by the Inspector for damage and uniformity. Unacceptable areas should be brought to the Resident Engineer's attention before rejecting the sign structure.

Inspectors should check the height of the sign structure above the roadway to verify the signs and the sign structures meet the minimum height requirements shown on the Project Plans.

606-3.05 Foundations

Foundations for sign structures are treated as drilled shafts and constructed in accordance with Subsection 609-1 through 609-3. Refer to Section 609 of this manual for information on drilled shaft construction. Requirements for concrete work fall under Section 601 and include:

- Concrete placement - Subsections 601-3.03(A), (C) & (D)
- Concrete finishing - Subsections 601-3.05 (A) & (B)
- Concrete curing - Subsections 601-3.06 & 1006-6.01.